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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/047,132

01/15/2002

Takashi Kaku

FUJI 19.348

4267

7590

12/09/2005

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EXAMINER

AGHDAM, FRESHTEH N

ART UNIT

PAPER NUMBER

2631

DATE MAILED: 12/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/047,132

Applicant(s)

KAKU ET AL.

Examiner

Freshteh N. Aghdam

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 7-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5,6 and 12-14 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments, see page 10, filed 9/19/2005, with respect to the rejection(s) of claim(s) 1-4, and 7-11 under Borth et al (US 4,630,304), and further in view of the instant application's disclosed prior art have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kaku et al (US 2002/0064234).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4 and 7-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Kaku et al (US 2002/0064234).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome

either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

As to claims 1, 3, and 7, Kaku teaches a noise canceling method and/ or apparatus comprising receiving a reception signal containing a specific signal and a no transmission energy section during which no periodical transmission is made, the specific signal having a specified time position, amplitude, and phase; recognizing a noise distribution of the specific signal; predicting a noise by comparing noise components of a pair of copied frequencies with each other and extracting a frequency band having a larger noise component from the pair of copied frequencies generated by insertion of the specific signal; and reproducing a transmitted original signal by canceling the predicted noise from a reception signal (Fig. 3 and 7; Par. 34, 44, 45, 45, 48, 52, 63-65, 70-71, and 136).

As to claims 2, 4, 8, and 10, Kaku teaches the specific signal is a zero point signal having an amplitude of zero, and the zero point signal is periodically inserted into the transmitted original signal (Fig. 3 and 10B; Par. 34).

As to claim 9, Kaku teaches a noise canceling method and/ or apparatus comprising means for receiving a reception signal containing a specific signal and a no transmission energy section during which no periodical transmission is made, the specific signal having a specified time position, amplitude, and phase; means for extracting a noise component from the specific signal of the reception signal, interpolation-predicting a noise of a data signal point, and canceling a noise of a specific

band by removing the predicted noise from the reception signal; and means for recognizing a noise distribution of the no-transmission energy section of the reception signal, predicting a noise by comparing noise components of a pair of copied frequencies with each other and extracting a frequency band having a larger noise component from the pair of copied frequencies generated by insertion of the specific signal, and canceling a large level noise by removing the predicted noise from the reception signal (Fig. 3 and 7; Par. 34, 44, 45, 45, 48, 52, 63-65, 70-71, and 136).

As to claim 11, Kaku teaches a noise canceling apparatus, wherein the means for recognizing a noise distribution comprises means for transforming the reception signal during the no-transmission energy section by a fast Fourier transformation method (Fig. 7 and 16; Par. 149-151).

Allowable Subject Matter

Claims 5-6 and 12-14 are allowed. The following is a statement of reasons for the indication of allowable subject matter:

As to claims 5 and 12, the prior art of record fails to teach changing by the transmission side an order of channels based on the noise distribution notified by the reception side so that channels having a large noise are gathered in a specific band; sending a signal subjected to the channel change to the reception side; restoring by the reception side the order of channels, which has been changed by the transmission side to an original order; and extracting a noise component of a specific band from the specific signal of the reception signal having channels in the restored order.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Freshteh N. Aghdam whose telephone number is (571) 272-6037. The examiner can normally be reached on Monday through Friday 9:00-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2631

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


KEVIN BURD
PRIMARY EXAMINER

Freshteh Aghdam
December 5, 2005